

Swing check valves forged from solid billet

pressure seal bonnet

with butt-weld ends

p approx. 600 bar
DN 50/50-500/450

Application

- In industrial plants, power stations, process engineering and marine engineering.
- For water, steam, gas, oil and other non-aggressive media.
- Other applications on request.

Operating data

- Maximum allowable pressure 600 bar
- Maximum allowable temperature 650 °C
- Pressure-temperature ratings see next side

Materials

- | | | |
|------------------------|--------|--------------|
| • Gehäuse: P 250 GH 1) | 1.0460 | up to 450 °C |
| 15 NiCuMoNb 5 | 1.6368 | up to 450 °C |
| 16 Mo 3 | 1.5415 | up to 530 °C |
| 13 CrMo 4-5 | 1.7335 | up to 550 °C |
| 10 CrMo 9-10 | 1.7380 | up to 570 °C |
| X 20 CrMo V 11 1 | 1.4922 | up to 600 °C |
| X 10 CrMoVNb 9-1 | 1.4903 | up to 650 °C |
| X 11 CrMoWVNb 9-1-1 | 1.4905 | up to 650 °C |

- Other materials on request

Design

- Body forged from solid billet
- Pressure seal bonnet
- Internal shaft
- Seal faces made of wear and corrosion-resistant hard-faced materials

1) previously: C 22.8

The valves meet the safety requirements of the Pressure Equipment Directive 97/23/EC (PED) of annex I for fluids of the groups 1 and 2.

Variants

- Flange design
- Minimum flow connection
- Acceptance tests to technical codes such as TRD/TRB/AD2000 or customer specification

Remarks

- Gate valves, type ZTS with pressure seal bonnet to type series booklet 7451.1
- Operating instructions: 0570.81

On all enquiries / orders please specify

- | | |
|-------------------------|-------------------------------|
| 1 Type | 7 Material |
| 2 PN | 8 Medium |
| 3 DN | 9 Flow rate |
| 4 Working pressure | 10 Pipe connection |
| 5 Differential pressure | 11 Optional extras |
| 6 Operating temperature | 12 Type series booklet number |

When ordering spares, indicate original serial number and year of manufacture.

The valves do not have a potential internal source of ignition and can be used in potentially explosive atmospheres, group II, category 2 (zones 1+21) and category 3 (zones 2+22) according to ATEX 94/9/EC.



Pressure-Temperature ratings

Material	Comp. group	Max. test pressure bar *)	Working pressures in bar at temperatures in °C 1)																											
			20	100	150	200	250	300	350	400	425	450	475	500	510	520	530	540	550	560	570	580	590	600	610	620	630	640	650	
P 250 GH 1.0460	C	290	212	202	181	161	141	126	105	85	76	66																		
	D	440	323	308	277	246	215	192	161	130	115	100																		
	E	580	426	407	366	325	284	254	213	172	152	132																		
	F	710	521	496	446	397	347	310	260	210	186	160																		
15NiCuMoNb5 1.6368	C	585	429	407	394	380	367	365	341	327	314	242																		
	D	900	660	618	598	578	558	539	518	498	476	374																		
16Mo3 1.5415	C	365	268	237	214	192	177	151	147	141	140	136	134	94	66	52	42													
	D	555	408	361	326	292	269	231	223	215	211	207	205	143	100	79	63													
	E	735	539	478	432	386	356	304	294	284	279	275	269	189	132	104	83													
	F	895	657	583	527	471	434	372	359	347	341	335	329	231	162	128	102													
13CrMo4-5 1.7335	C	365	268	243	228	213	202	187	177	167	162	157	155	138	118	95	79	61	49											
	D	555	408	369	346	323	308	284	269	254	246	238	235	211	178	145	119	93	75											
	E	735	539	488	457	427	407	376	355	335	325	315	310	277	236	191	158	124	100											
	F	895	657	596	558	521	496	459	434	409	397	385	378	341	288	233	193	151	121											
10CrMo9-10 1.7380	C	365	268	248	232	217	213	202	187	177	173	167	162	136	119	104	91	79	69	58	51									
	D	555	408	377	354	331	323	308	284	269	262	254	246	207	181	158	138	119	104	89	78									
	E	735	539	498	467	437	427	407	376	355	345	335	325	275	239	183	158	138	117	103										
	F	895	657	608	570	533	521	496	459	434	422	409	397	335	292	255	223	193	168	144	126									
X20CrMoV11-1 1.4922	C													237	213	188	169	148	129	113	96	83	71	59						
	D													361	324	286	257	226	196	172	147	126	107	90						
	E													478	429	378	339	299	260	227	195	167	143	119						
	F													583	523	462	414	365	317	278	238	203	173	146						
X10CrMoVNB 9-1 1.4903	C															245	225	204	185	166	148	131	116	102	89	78	67	59		
	D															324	296	270	244	214	195	174	154	135	117	103	87	77		
	E															470	429	391	353	316	283	251	221	197	170	148	126	112		
	F															514	472	428	387	347	311	275	244	215	186	162	139	122		
X11CrMoWVNB 9-1-1 1.4905	C																			205	187	170	152	136	125	115	102	91		
	D																			263	239	218	195	174	160	147	130	116		
	E																			355	322	294	263	234	215	198	175	156		
	F																			420	380	347	311	276	254	234	207	184		

1) The valves can be used down to -10 °C

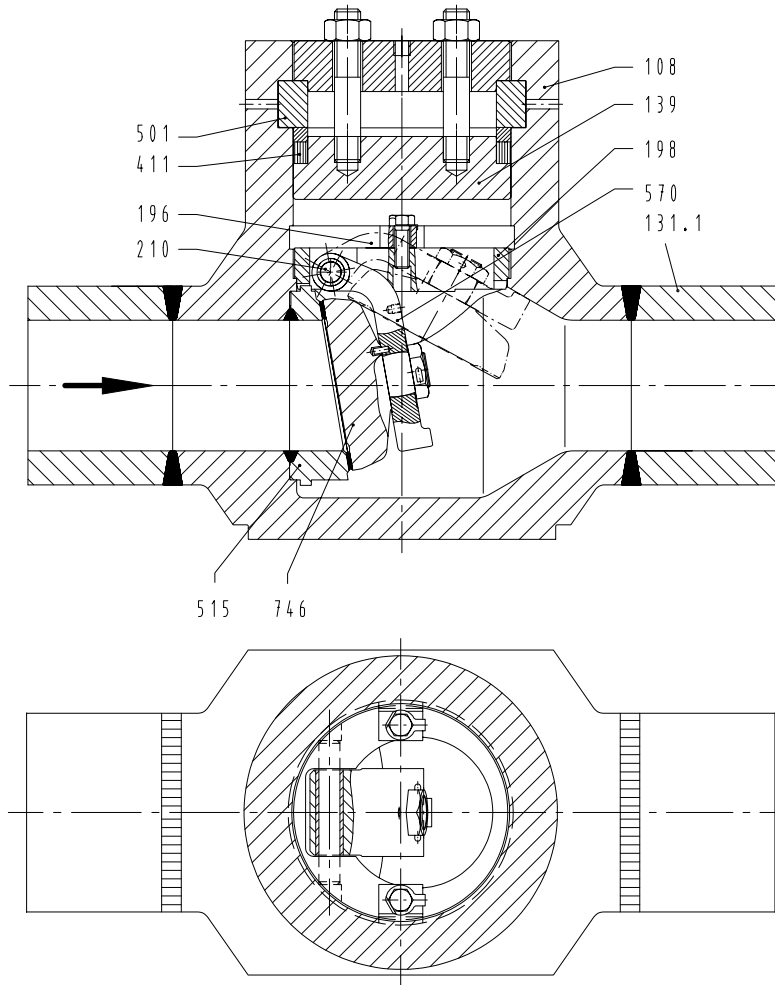
*) Max. test pressure = working pressure x 1.5 / 1.1

Materials

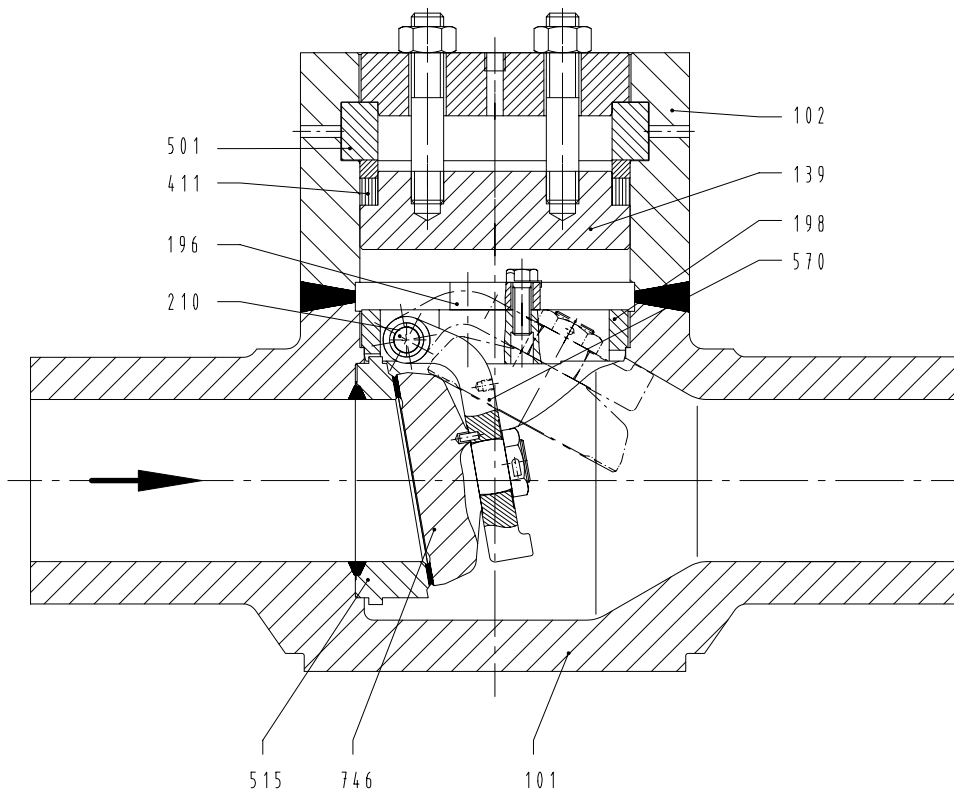
Part no.	Name of part	Materials for working temperatures up to °C					
		450	530	550	570	600	650
101	Body lower part	P 250 GH 1.0460	16Mo3 1.5415	13CrMo4-5 1.7335	10CrMo9-10 1.7380	X20CrMoV11-1 1.4922	X10CrMoVNB 9-1 1.4903 X11CrMoWVNB 9-1-1 1.4905
102	Body upper part						
108	Body						
131.1	Connection branch						
139	Bonnet	15NiCuMoNb5 1.6368	10CrMo9-10 1.7380	13CrMo4-5 1.7335	10CrMo9-10 1.7380	X20CrMoV11-1 1.4922	X10CrMoVNB 9-1 1.4903 X11CrMoWVNB 9-1-1 1.4905
501 *)	Split ring						
746 *)	Disc Hard-faced stellite 6						
515	Seat ring Hard-faced 1.4370						
196 *)	Locking plate	10CrMo9-10 - 1.7380				X10CrMoVNB 9-1 - 1.4903	
198 *)	Plate	10CrMo9-10 - 1.7380				X10CrMoVNB 9-1 - 1.4903	
210 *)	Shaft	X35CrMo17-1 - 1.4122				X20CrMoV11-1 - 1.4922	
411.1 *)	Gasket	pure graphite					
570 *)	Lever	10CrMo9-10 - 1.7380				X10CrMoVNB 9-1 - 1.4903	

*) Recommended spare parts

DN 50/50 - 200/175 with connection branches



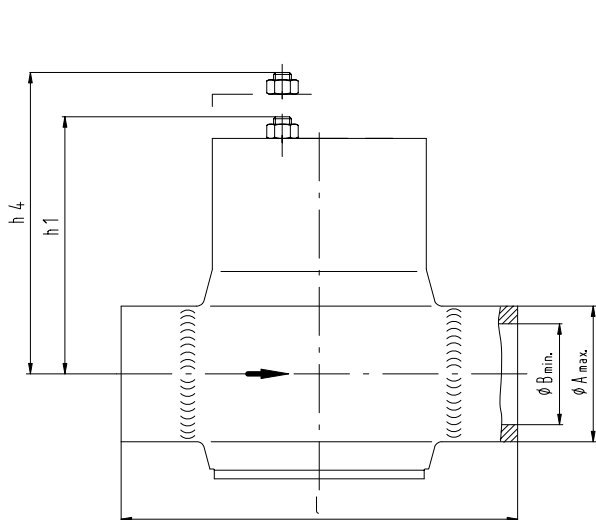
DN 200/200 - 500/450 without connection branches



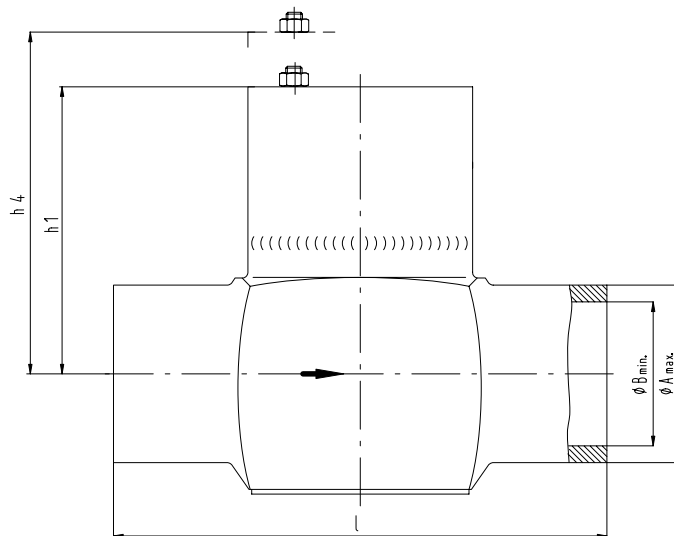
Dimensions of component groups C - F

Face-to-face dimensions see tables.
 Dimensions of butt-weld ends and weld groove form to customer's specification, but only within dimensions $A_{max.}$ and $B_{min.}$

Special dimensions on request



≤ DN/S 200/175



≥ DN/S 200/200

Dimensions in mm

Comp. group	Face-to-face dimension				Butt-weld ends not machined				Heights								Weights							
	C	D	E	F	øA _{max.}		øB _{min.}		h 1				h 4 1)				kg							
50/50	250	250	250		75		85		45				155	160	160	160	230	235	245	245	22	30	34	42
65/50	340	400	400		85		90		45				155	160	160	160	230	235	245	245	24	34	38	46
65/65					102		120		60				170	210	210	210	255	310	320	320	32	40	48	67
80/65	380	450	450		102		120		60				170	210	210	210	255	310	320	320	34	42	50	70
80/80					110		130		70				185	185	185	200	285	295	305	330	44	62	80	110
100/80	430	520	520		120		140		90				205	230	230	245	325	350	380	405	46	65	85	125
100/100					150		160		90				205	230	230	245	325	350	380	405	60	80	120	160
125/100	500	600	600		145		180		90				205	230	230	245	325	350	380	405	63	85	130	170
125/125					155		195		110				235	260	260	280	390	435	445	475	90	140	200	245
150/125	550	700	700		175		210		110				235	260	260	280	390	435	445	475	94	150	210	260
150/150					180		225		135				265	315	315	330	445	515	530	555	125	195	235	365
175/150	600	800	800		200	210	220	240	135				265	315	315	330	445	515	530	555	130	205	240	385
200/150	650	800	800		225	250	260	290	155				295	315	330	360	495	545	580	630	137	210	250	395
175/175	600	800	800		200	230	250	270	155				295	315	330	360	495	545	580	630	180	295	350	480
200/175	650	800	800		230	245	260	290	155				295	315	330	360	495	545	580	630	190	315	375	510
200/200	700	800			260	295	290	310	180				340	410	450	480	600	685	740	790	255	380		
250/200		900	1050			275	330	350	375	180				340	410	450	480	600	685	740	790	280	405	
250/250	850	950	1050	1150	300		375		225				365	415	490	500	640	745	780	810	405	660		
300/250					360		440		225				365	415	490	500	640	745	780	810	445	705		
300/300	950	1150	1250	1350	380		440		275				430	520	560	590	790	930	985	1030	685	1300		
350/300					410		520		275				430	520	560	590	790	930	985	1030	720	1360		
350/350	1050	1350	1450	1550	430		520		320				510	625	660	690	940	1105	1160	1210				
400/350					460		595		320				510	625	660	690	940	1105	1160	1210				
400/400	1200	1550	1650	1750	475		595		365				600	725	785	815	1075	1290	1350	1410				
450/400					515				365				600	725	785	815	1075	1290	1350	1410				
450/450	1350	1750	1850	1950	530		670		410				640	790	850	900	1170	1390	1490	1570				
500/450					585				410				640	790	850	900	1170	1390	1490	1570				

on request

1) h4 Vertical clearance for removal

*) Larger nominal diameters on request.

Subject to technical modification without prior notice

01.12.2003

7278.1/5-10

